MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

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California Coastal Commission
c/o Sea-level Rise Work Group
45 Fremont Street, Suite 2000
San Francisco, CA 94105

**Via Email: SLRGuidanceDocument@coastal.ca.gov**

Dear Work Group Members,

**Subject: Comments on Draft Sea-Level Rise Policy Guidance, Public Review Draft**

Thank you for the opportunity to provide comments on the subject draft guidance document. Our comments pertain in particular to the proposed Doheny Ocean Desalination Project to be located along Doheny State Beach. This project is planned to utilize subsurface, fully buried slant beach wells for the intake system.

Over the past 10 years, the Municipal Water District of Orange County (MWDOC) through its association with participating, resource and regulatory agencies, has found that slant beach well technology is an environmentally protective and cost-effective method for ocean desalination intakes. Doheny State Beach overlies the entire width of the San Juan Creek alluvial channel structure; this 200 foot thick alluvial aquifer extends out under the ocean within the continental shelf. Our pioneering work investigating subsurface intakes using modified water well technology resulted in the construction of the first large scale test slant beach well constructed out under the ocean. The test slant well is located on Doheny State Beach, North Day Use Beach area, and was installed in spring 2006. We subsequently conducted a 21 month extended pumping and pilot plant test that concluded on May 3, 2012. Today, we are continuing project development under a Metropolitan Water District of Southern California Foundational Action Program.

Over the past 10 years we have developed an excellent working relationship with the California Department of Parks and Recreation who recognize the importance of the project to improve water supply reliability in south Orange County, an area heavily dependent on imported water. Moreover, we fully recognize the critical recreational value that Doheny State Beach provides to the public and the environmental resources in the area.

Since 2004, we have appeared before the Commission on several occasions and have worked closely with staff on permitting the project development work. For more information on the project, please visit our website at http://www.mwdoc.com/services/dohenydesalhome.

The Commission Work Group recognizes that key challenges in the coming decades for all coastal-dependent public facilities will be providing the critical infrastructure for protection of these public uses and facilities from sea level rise (SLR) and associated risks from design storms, earthquakes, and other coastal processes and risks.

We urge your work group to support flexibility in the guidance document to allow for an adaptive management approach that can be staged to protect present and future uses and facilities from future sea level rise. We recommend that the level of protection should be based on a multi-purpose approach that can be implemented over an extended period of time into the future. SLR will necessitate protection of multiple resources and facilities along the coastal zone as well as protection of public uses. For Doheny State Beach the specific sea-level rise planning area coastal segment could include Dana Point Harbor and three segments within Doheny State Beach: North Day Use Area, San Juan Creek flood control channel/seasonal lagoon, and RV Campground area. Agencies with facilities within the Doheny State Beach segment, include:

- Doheny State Beach North Day Use and RV Campground recreation segments
- CalTrans PCH Bridges
- City of Dana Point Roads, Facilities and Coastal Developments
- County of Orange Dana Point Harbor
- County of Orange and USACOE flood control improvements for San Juan Creek
- South Orange County Wastewater Authority San Juan Creek Ocean Outfall
- NMFS southern Steelhead recovery program, including development of refugia in the seasonal coastal lagoon
- Doheny Ocean Desalination Test Slant Well facilities
- Planned Full Scale Doheny Ocean Desalination Project subsurface slant beach well intake system
- South Coast Water District Water and Wastewater Facilities

We recommend that for defined coastal segments, specific joint agency "master adaptive management plans" be developed for staged protection of adaptation improvements for protection from sea-level rise, with design plans developed, approved and implemented for set

target sea level rise elevations. We concur that timing for these protective improvements will need to be based on good science and cooperative inter-agency efforts. Specifically, the full scale Doheny Ocean Desalination Project would incorporate three clusters of three slant wells each, for a total of nine wells to produce 30 mgd of feedwater from the offshore marine aquifer. Two wellhead clusters are anticipated to be located along the Doheny North Day Use segment and one cluster is anticipated to be along the downcoast RV campground segment.

For this particular coastal developed segment, it is useful to illustrate what may be required in the future to adapt to SLR. To provide protection and adaptation from sea-level rise, with design plans for target sea level rise elevations within these two segments, joint studies with State Parks and other agencies will be required. The currently most vulnerable area is the lower-lying down coast RV Campground segment. Protections for the down coast bank of San Juan Creek, San Juan Creek Ocean Outfall, and the slant well cluster will likely require a protective measure at the South end of the campground to help anchor the beach to protect both the slant wells and the campground. In addition to the improved protections for the beach area, it may also be prudent to place a raised protective levee rather than seasonal creation of sand berms along the RV shoreline area to provide enhanced protection up to certain future target SLR elevations and associated extreme tides and storm surges. The Doheny North Day Use segment is relatively well-anchored between the Dana Point Harbor jetty and San Juan Creek groin and jetty rock bank protection, but improvements to these protective features will be needed to protect against SLR. The actual design to provide protections to these critical public uses will require creative thinking on the part of the project, coastal engineering and environmental team to develop the adaptation plan.

If you should have any questions or would like to further discuss our suggested approach, we would be most willing to meet with your team. The draft guidance document is an excellent start to a major challenge that we will face into the future. Adapted management and staged protective measures will be necessary into the future.

I may be reached at [redacted] or by phone at [redacted]

Sincerely,

[redacted]

Richard B. Bell, P.E.
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Cc: Dave Pryor, CDPR